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EXAMINER

LEE, RICHARD J

ART UNIT

PAPER NUMBER

2613

DATE MAILED: 11/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/088,468

Applicant(s)

NISHIO ET AL.

Examiner

Richard Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 33-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The applicants' arguments from the amendment filed May 27, 2005 have been noted and considered, but are deemed moot in view of the following new grounds of rejections.

2. Claim 41 is objected to because of the following informalities:

At claim 41, line 6, "ration" should be changed to "ratio" for clarity.

Appropriate correction is required.

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 34, 35, and 38-42 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In particular, the Specification does not provide support for the features of "an encoder to time-divisionally multiplex the picture signals in a video period and the control signal in a retrace period, thereby to encode the picture signals and the control signal into transmission path signals suited to the transmission path" claimed in claims 34 and 35, respectively; and "the control signal is time-division-multiplexed in a retrace period" as claimed in claims 38-40, respectively.

As best understood by the Examiner, Figures 2 and 4 of the drawings are representative of the features claimed in claims 34 and 35. The Specification at page 17 teaches at most that the time division multiplexing circuit 203 time division multiplexes color difference signals Pb and

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Pr output from MPEG decoder 202 and converts them into a single signal line. Transmission path encoding circuit 204 encodes the multiplexed PbPr signal outputted from the time division multiplexing circuit 203 and the Y signal outputted from the MPEG decoder 202, and transmits these signals to display unit 205. It is therefore clear that support for the features of “an encoder to time-divisionally multiplex the picture signals in a video period and the control signal in a retrace period, thereby to encode the picture signals and the control signal into transmission path signals suited to the transmission path” claimed in claims 34 and 35, respectively.

As best understood by the Examiner, Figures 2, 4, and 13 of the drawings are representative of the features claimed in claims 38-40. As discussed in the above paragraph, the only time division multiplexing described in the Specification is for the color difference signals Pb and Pr. Though a control data separation part 1303 is taught at page 29 of the Specification to separate only control data out of the video signal, the specifics of how the control data is multiplexed for transmission as claimed is not fully supported.

5. Claims 36, and 38-42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

For examples:

(1) claim 36, lines 2-3, line 4, line 5, line 7, “the decoded video signal” shows no clear antecedent basis, respectively;

(2) claim 38, lines 5-7, claim 40, lines 5-7, the phrase “the transmission path signal is **obtained** by coding the control signal which is generated based on a compressively coded signal,

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and the video signal so as to be suited to the transmission path” as claimed is vague and indefinite in that it is unclear what is being claimed, respectively;

(3) claim 39, lines 5-7, the phrase “the transmission path signal **is obtained** by coding the control signal to be used for controlling image quality, which is generated based on a compressively coded signal, and the video signal so as to suited to the transmission path” as claimed is vague and indefinite in that it is unclear what is being claimed;

(4) claim 40, line 10, “the signal” shows multiple antecedent basis (see lines 1, 3, 4, 4-5, and 6); and

(5) claim 41, lines 2-3, 3-4, 5, 7, “the decoded video signal” shows no clear antecedent basis, respectively.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 33 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al (US 2002/0001346 A1) in view of Liu et al (5,987,554).

Kato et al discloses a moving picture coding and decoding apparatus as shown in Figures 1 and 5, and substantially the same transmission apparatus for transmitting a video signal through a transmission path as claimed in claims 33 and 36, comprising substantially the same decoder (i.e., as provided in Figure 5) to decode a compressively coded signal to output picture signals, including a base-band luminous signal and base-band color different signals (see section [0049]), and a control signal which is generated based on the compressively coded signal,

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wherein the control signal is information indicating at least one of (1) a picture of the decoded video signal is any of an I picture, a P picture, and a B picture, (2) a picture of the decode video signal is either a picture picked up by progressive scanning or a picture picked up by interlaced scanning, (3) a picture of the decoded video signal is either a top field or a bottom field picture, (4) a compression ratio of MPEG, and (5) field repeat information of a picture of the decoded video signal (see sections [0058], [0100]).

Kato et al does not particularly disclose, though, an I2C controller to control an I2C signal, and a CPU to control the I2C controller and the decoder, wherein the decoder is controlled by the CPU so as to output the picture signals which are displayable in a reception apparatus, on the basis of reception apparatus information that is received through the I2C controller as claimed in claim 33. However, Liu et al discloses a method of controlling the transfer of information across an interface between two buses as shown in Figure 1, and teaches the conventional use of an I2C controller (see column 3, lines 9-46) to control an I2C signal and a CPU for controlling various system devices, which includes an I2C controller and a video decoder so that the decoder may therefore output pictures signals to be displayed in a reception apparatus on the basis of reception apparatus information that is received through the I2C controller (see column 1, line 56 to column 2, line 14, column 3, lines 9-46). Therefore, it would have been obvious to one of ordinary skill in the art, having the Kato et al and Liu et al references in front of him/her and the general knowledge of CPU control of system devices, would have had no difficulty in providing the I2C controller and CPU for controlling the I2C controller and the video decoder as taught by Kato et al as part of the system of Liu so that the video decoder of Liu may be controlled by the CPU in order to output the picture signals which

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are displayable in a reception apparatus on the basis of reception apparatus information that is received through the I2C controller for the same well known flexibility and lowering of interconnecting costs by reducing board space and pin count by utilizing the I2C bus architecture and communication among various interfaces through the CPU purposes as claimed.

8. Claims 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al and Liu et al as applied to claims 33 and 36 in the above paragraph (7), and further in view of Maruoka (5,257,106).

The combination of Kato et al and Liu et al discloses substantially the same transmission apparatus as above, but does not particularly disclose an encoder to time-divisionally multiplex the picture signals in a video period and the control signal in a retrace period, thereby to encode the picture signals and the control signal into transmission path signals suited to the transmission path as claimed in claims 34 and 35. However, Maruoka discloses a television signal receiver system as shown in Figure 1B, and teaches the conventional use of an encoder for time division multiplexing of audio signal and independent data (i.e., control data) during the retrace interval of the video signal, and the encoding of the picture signals and control signal into transmission path signals suited to the transmission path (i.e., the transmission of the multiplexed digital signal as a packet, see column 1, line 59 to column 2, line 13). Therefore, it would have been obvious to one of ordinary skill in the art, having the Kato et al, Liu et al, and Maruoka references in front of him/her and the general knowledge of time division multiplexing systems, would have had no difficulty in providing an encoder for time division multiplexing of control data during the retrace interval of the video signal, and the encoding of the picture signals and control signal into transmission path signals suited to the transmission path as taught by Maruoka

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for the transmission system of Kato et al and Liu et al for the same well known time division multiplexing of video and associated data during the retrace period for transmission to a receiver purposes as claimed.

9. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al and Liu et al as applied to claims 33 and 36 in the above paragraph (7), and further in view of Ryoo (5,990,957).

The combination of Kato et al and Liu et al discloses substantially the same transmission apparatus as above, but does not particularly disclose wherein the control signal is used for controlling image quality as claimed in claim 37. Such technical features are however old and well recognized in the art, as exemplified by Ryoo (see column 12, lines 10-40). Therefore, it would have been obvious to one of ordinary skill in the art, having the Kato et al, Liu et al, and Ryoo references in front of him/her and the general knowledge of image quality controls of video, would have had no difficulty in providing an image quality control signal as taught by Ryoo within the system of Kato et al for the same well known control of video qualities purposes as claimed.

10. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al in view of Ryoo and Maruoka.

Kato et al discloses a moving picture coding and decoding apparatus as shown in Figures 1 and 5, and substantially the same reception apparatus for receiving a video signal through a transmission path (see Figure 5) as claimed in claim 39, comprising substantially the same decoder (i.e., as provided in Figure 5) to decode transmission path signal into picture signals, including a base-band luminous signal and base-band color different signals (see section [0049]),

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and a control signal (see sections [0058], [0100]), the transmission path is obtained by coding the control signal (see sections [0058], [0100]), which is generated based on a compressively coded signal, and the video signal so as to be suited to the transmission path (see Figures 1 and 5).

Kato et al does not particularly disclose, though, coding the control signal to be used for controlling image quality, an image quality control to control the image qualities of the picture signals on the basis of the control signal, and the control signal being time division multiplexed in a retrace period as claimed in claim 39. However, Ryoo discloses a video signal bit amount control using adaptive quantization, and teaches the conventional use of a control signal for controlling the image qualities of the picture signals (see column 12, lines 10-40). Also, Maruoka discloses a television signal receiver system as shown in Figure 1B, and teaches the conventional use of an encoder for time division multiplexing of audio signal and independent data (i.e., control data) during the retrace interval of the video signal (see column 1, line 59 to column 2, line 13). Therefore, it would have been obvious to one of ordinary skill in the art, having the Kato et al, Ryoo, and Maruoka references in front of him/her and the general knowledge of image quality controls of video and time division multiplexings, would have had no difficulty in providing an image quality control signal as taught by Ryoo as well as the time division multiplexing of control data in a retrace period as taught by Maruoka within the system of Kato et al for the same well known control of video qualities and time division multiplexing of information during a retrace interval of a video period for transmission to a receiver purposes as claimed.

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11. Claims 38, and 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al, Ryoo, and Maruoka as applied to claim 39 in the above paragraph (10), and further in view of Ishikawa et al (5,969,767) and Liu et al (5,987,554).

The combination of Kato et al, Ryoo, and Maruoka discloses substantially the same reception apparatus as above, further including wherein the control signal is information indicating at least one of (1) a picture of the decoded video signal is any of an I picture, a P picture, and a B picture, (2) a picture of the decoded video signal is either a picture picked up by progressive scanning or a picture picked up by interlaced scanning, (3) a picture of the decoded video signal is either a top field or a bottom field picture, (4) a compression ratio of MPEG, and (5) field repeat information of a picture of the decoded video signal (see sections [0058], [0100] of Kato et al), and wherein the control signal is used for controlling image quality (see column 12, lines 10-40 of Ryoo).

The combination of Kato et al, Ryoo, and Maruoka does not particularly disclose the followings:

(a) a ROM table to hold reception apparatus information indicating performance for making the signal displayable as claimed in claims 38 and 40; and

(b) an I2C controller to output the reception apparatus information stored in the ROM table to a transmission apparatus on the basis of an I2C signal outputted from the transmission apparatus as claimed in claims 38 and 40.

Regarding (a), Ishikawa et al discloses a multipicture video signals display apparatus as shown in Figures 13-15, and teaches the conventional use of a ROM table (i.e., 3332 of Figure 15) for holding reception apparatus information indicating performance for making the signal

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displayable (see column 8, lines 50-67). Therefore, it would have been obvious to one of ordinary skill in the art, having the Kato et al, Ryoo, Maruoka, and Ishikawa et al references in front of him/her and the general knowledge of the use of tables for displays, would have had no difficulty in providing the ROM table of Ishikawa et al for the system within the combination of Kato et al, Ryoo, and Maruoka so as to hold reception apparatus information indicating performance for making the signal displayable for the same well known display of video based on stored information data purposes as claimed.

Regarding (b), Liu et al discloses a method of controlling the transfer of information across an interface between two buses as shown in Figure 1, and teaches the conventional use of an I2C controller (see column 3, lines 9-46) to control an I2C signal as well as the use of the I2C controller and a CPU for controlling various system devices, which includes video encoders and decoders (see column 1, line 56 to column 2, line 14, column 3, lines 9-46). It is hence considered obvious to use the I2C controller of Liu et al so as to output the reception apparatus information stored in the ROM table (i.e., as provided by Ishikawa et al, see 3332 of Figure 15 of Ishikawa et al) to a transmission apparatus on the basis of an I2C signal outputted from the transmission apparatus (see Figures 13-15 of Ishikawa et al). Therefore, it would have been obvious to one of ordinary skill in the art, having the Kato et al, Ryoo, Maruoka, Ishikawa et al, and Liu et al references in front of him/her and the general knowledge of CPU and I2C control of system devices, would have had no difficulty in providing an I2C controller to control an I2C signal as well as the use of the I2C controller and a CPU for controlling various system devices, which includes video encoders and decoders as taught by Ishikawa et al for the system within the combination of Kato et al, Ryoo, and Maruoka, so that the I2C controller of Liu et al is provided

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so as to output the reception apparatus information stored in the ROM table of Ishikawa et al to a transmission apparatus on the basis of an I2C signal outputted from the transmission apparatus for the same well known control and transmission of video via CPU and I2C control interfacing purposes as claimed.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Lee whose telephone number is (571) 272-7333. The Examiner can normally be reached on Monday to Friday from 8:00 a.m. to 5:30 p.m, with alternate Fridays off.


RICHARD LEE
PRIMARY EXAMINER

Richard Lee/rl

11/14/05

